THE BOOK WAS DRENCHED

PRINCIPLES OF WAR ECONOMICS

by

U. N. GHOSH, M.A., Ph.D.

THE MINERVA BOOK SHOP
LAHORE

First Published 1943

Printed by Mirza Mohammad Sadiq at the Ripon Printing Press, Bull Road, Lahore on Titaghur Controlled Quality Paper supplied through Messrs. Ram Lal Kapur and Sons, Lahore and published by Mr. Balkrishna for the Minerva Book Shop, Anarkali, Lahore

CONTENTS

PREFACE

A War on a large scale was for a very long time considered as a great necessary cause of dislocation of a given economic and social order. But it need not actually be so, and that has been the point which economists like Keynes have sought to drive home. A planned war economy is best likely to work to the best effect, that is, to cause the least possible sacrifice to the community. In the absence of such an economy a scientific regulation and control system must be brought to operate at a time when the various concommitants of the war period economy have not become unmanageable. It is on the scientific and intelligent conduct of the war in its economic and financial aspect that the continuity of economic progress depends. But post-war reconstruction or constructive planning in any country should be deferred until all the necessary factors for such reconstruction are found ; and that will be possible only at the end of the war. Yet, if most of the countries at war conduct the war on the lines of scientific economy, the task of post-war construction would be much easier, and much less costly than it must otherwise be.

In the present treatise, I have sought to discuss these lines. Lack of data, much of which is officially collected, has prevented me from working out the principles more fully. I hope, however, to elaborate these in a short time, as I have already been trying to collect and examine the statistical materials. I have no doubt that the statistical findings would bear out the theoretic analysis and conclusions.

U. N. GHOSH.

INTRODUCTORY

THE economic conduct of a war must take place according to a plan of co-ordinated production and distribution relatively to the economic production and potentials of a country for the specific purpose. It is a fallacy to think, unless a country is very poor in resources, that a war must impose hard sacrifice. The fact is that no such heavy sacrifices should be imposed as to impair permanently or for any long period the quality of the population. Such an unfortunate eventuality as a remnant of impoverished and devitalised people must be avoided if it is in any manner possible ; and that can be done by a statistical calculation and working of the economic potentials together with a scientific employment of existing resources.

There has so far been made no such calculation or measurement of potentials as would be helpful at once. If it is not impossible this study must be taken up at once, and data collected and classified. If the time for such a study cannot be spared, calculation of probabilities on the data already collected by the Commerce and Agricultural Departments (Statistics) should provide the basis of the measurement of potentials in raw materials and labour and industrial production. The next step will be to measure the current and expected future demands. Here, of course, the question of time is an important factor. The war may go on for two years more or ten more or it may come to a sudden end at the end of six months from the present date. Planned production for four to five years may be recommended, as a likely average : and relative to the expected

demands, the exploitation of the supplies will have to be worked out. This will be the study of real demands and real supplies, which are to be brought together through the medium of price or money and credit.

All students of economics are aware of the fact that a steady level of prices is neither desirable nor practically maintainable, and so it should rather be a rising level of prices that must be planned. In this connection, however, it must be said that the situation in India is peculiar. Prices have been inflationary and attempts are now being made to deflate them. An expert has again been employed to that end. It is not known what the expert will do, because the only means of deflation will be to shorten the quantity of currency and credit, by taxes and loans ; yet when necessity is so great for things and services, and there is a prospect of increasing demand, deflationary measures cannot be expected to be successful ; and if successful at all, they will only produce undesirable effects on supply. The recent Price Index has shown a comparative fall in many lines, *e.g.*, textiles, but the exact causes of this fall cannot be determined. At least that is not due to the deflationary measures adopted. There is only one solution of the developing crisis in India : to see that the credit and currency is not increased any more and that within the range of prices reached at present the production activities are increased. This can be done not only by keeping the currency and credit even through issue of short term loans—taxation has apparently reached the limit—and by controlling capital issues, but also by adopting the existing price system in all non-essential goods and services, and reducing it to the level of " fair prices " in all essentials. But all this must be achieved according to some principles and not arbitrarily. First,

the prices of any one group can be settled ; and then those of others determined by the application of the principles of substitutability and complementarity of things and services. When this has been done, the flow of supplies will be adjusted ; if it is not, then the obstructions in the flow must needs be removed. It is only by the increase of supply proportionate to rise in prices (comparatively with costs) that an equilibrium will be arrived at.

The financial measures adopted so far have been, it will be admitted, very correct, though not be adjusted to economic conditions. But one thing in the whole programme has appeared to be a rather very much disturbing factor ; namely, the Reserve Bank's unwillingness to sever the sterling securities from the currency Reserves. Of course, this was an original mistake from which has come a large amount of inconvenience ; but that is no reason why it should be continued. Formerly, the depletion of the sterling Reserves caused monetary stringency, as the assets and liabilities in the Issue Department had to be balanced—(advantage not having always been taken of the high prices of gold for the calculation of the gold Reserves,—and now the same sterling balances are contributing to inflation, the gold stocks being kept apparently to the same figures)—irrelevant of the prices of gold. It will be best to split the sterling Reserves—as is being done practically under the name of repatriated sterling. But the apparent lack of a rational category for the sterling repatriated, and the persistence of the single item of sterling Reserves in the assets column of the Issue Department have undoubtedly created a difficulty not to be overcome without a categorical split-up and a separate Fund for balancing the exchange-rates. As for the

Gold Reserves it is not enough to keep the value of the Reserves constant, when the market prices are wildly speculative. At one time it led to the export of gold and now it is still permitting wide fluctuations. Something must be done, fixation of gold and silver prices or withdrawal of permits to speculate on gold and silver,—in order to introduce a little stability into the market, and the general price system. Three things, therefore, appear desirable in this field of financial control: (1) separation of Sterling Reserves or at least part of these; (2) control of gold and silver prices; and (3) refrainment from adding to the currency of over 700 crores already issued, which, on the assumption that velocity of circulation has increased four to five times also if not more, makes a monetary supply of about 3000 crores or more, while the supply of goods and services has certainly not increased to the extent, as compared with the normal production in normal years, of course, credit also being taken into account. This has encouraged inflation in spite of all the control exercised and it all undoubtedly proves that the economic forces have not been correctly measured in money terms.

Apart from the financial control, there is the price control affair, which it was a mistake to overlook or neglect in the beginning under the rather weak-minded belief that it was good for the prices to rise from the depression points reached in the pre-war years. There was certainly no objection to the depression lifting in the favourable condition of war time demands; but the whole thing might have been foreseen and the lines of developments arranged, with a predetermind margin for the rise in prices to induce expanded production. However, even now it is not too late. But the Govern-

ment's price control schemes are more or less official secrets, as also the administration of the scheme. It is difficult to understand what the controllers are doing and why, unless one is taken into confidence. The man in the street is allowed only to see official notifications of prices of certain articles, necessary and otherwise, which appear in the papers and publicity organs. One hardly ever gets such prices in the markets, where the distributors never agree to sell at official prices. The dealers' objections are that the control prices are inadequate, and whether the objections are real or not, has not been so far examined. It is probably here necessary to take the dealers' associations into confidence, and discuss with them, as with the manufacturers and importers, the principles of the fixation of prices, though it must be understood that short of absolutely rigid control all over, price fixing of commodities effects nothing.

This brings in the most important part of war-time economy, which is, strangely enough, not economics but psychology. Whatever the pure Economists might say, the psychologic factors play a very important role in the war-time economic relations,—with a strong self-interest or profiteering motive working along with a self-abnegation, which may be forced or voluntary. If strong self-interest is tickled by prospects of higher profits and the self-denial principle is checked, and if the public are forced, then the effects of compulsion on the system of economic needs and satisfactions are not likely to be good or salutary. If the sense of self-interest is kept back and an active force of co-operation and self-denial, is stimulated, the management of the war economics would be easier. The publicity campaigns of the National War Front might be used to create this spirit ;

and so also, what is more important, the administrative measures. After all the economic conduct of a great war cannot be left only to the officials; it will have to be the business of all the economic groups of the country who must be invited and encouraged to co-operate and collaborate.

CHAPTER I

RELATION BETWEEN PEACE AND WAR TIME ECONOMICS

UNTIL the present day wars appeared to be sudden, disrupting attacks on the established economic order and finances of a country, and the disastrous effects of such wars could be repaired only by long and patient sacrifices by generations. The wastage and exhaustion involved in a war was contrasted sharply against the painful building up out of the economic resources in peace time. Theoretically, the Economic principles of peace time activities were held to be unserviceable in the war time, because, as Prof. Robins observed, the ends are so dissimilar. If economic laws formulate, the adaptation, at the least cost, of scarce means to *given ends*, in various conditions of probability, then obviously one set of laws referring to a particular set of conditions *i.e.*, peace time ends, may not refer to a different set of conditions, *viz.*, war time ends. In order to avoid confusion and diseconomies originating in such confusion, it is suggested that the post war economic activities should not take over any of the persisting forces out of the war time economy, and seek to convert these forces for peacetime needs and satisfactions. But it seems that such delicate logical distinctions may do more harm than good because of their abstractions. There is an obvious relation between peace time economics and war time economics, because a war means ultimately social security and political, which comprehends the ultimate welfare of a people. Besides, if choice is the main essence

of economics, the conduct of peace-time life admits as much choice as that of the war-time life, and it is very probable that in the latter the emphasis on the element of absolute necessity is rather the unfortunate result of a misconception about the economic value of a war.

It is certainly a mistake to exaggerate the element of absolute necessity in war time economics, for necessity having no laws gives rise to recklessness, or uneconomic forces. The mistake has been sought to be corrected in recent times; and both in the actual conduct of war and considerations of post-war economics, the choice element has been rightly emphasised, or worked out to a certain extent. Evidently the war time demands can be classified as,

(1) Excess demands of certain goods and services produced in peace time.

(2) New demands of certain goods and services that are to be supplied out of the existing factors by transfer or displacement or substitution.

(3) New demands of certain goods and services for which the potentials of a country will have to be worked up as far as possible.

All these forces of demand and the corresponding forces of supply can be organised and ought to be by a choice of methods of application of means to given ends.

There are, of course, certain new forces brought into play by the fact of the excess and new demands which are of very considerable magnitudes, determined by the scales of the war waged. If the peace time economic order is different from the war time, it is in respect of these new forces at play; and these new forces may not be uncontrollable or unintelligible. One can pass into review such forces as in the following :

(1) In peace time the rate of economic expansion is comparatively slow, (and irregular, if it is hustled), but in war time the rate is quickened up considerably owing to the urgency of the demands (unless, of course, a long war is in view), with the result that the equilibrium of supply and demand towards which economic activities in several lines move, is not possible in the war time, there being always an excess demand of many things and services that is not easily satisfied. Accordingly, war time economic activity resembles for some time at least the upward lift of a cycle towards a boom, with the only difference that the boom is impending and does not actually come into view. This produces its effects all round.

(2) First, the relative scarcity increases or appears to increase in many ways and materials or factors ; and this enhances the difficulty of choice for (*a*) civil purposes ; (*b*) war purposes. The appearance of this increased relative scarcity in an acute form is aggravated by hurried conversion of employment of factors from one set of ends to another. The actual costs of production or supply are affected to a large degree by the anticipated enhanced scarcity, and from that arises the 'inflation' that is undesirable because of its disorganising nature.

(3) Secondly, new potentials are likely to be worked up for additional supplies irrespective of the costs, as the idea is that supplies must be obtained, whatever the sacrifice. These costs are undoubtedly pressed forward by the

scarcity prices that come out in (2), and this by mutual action and interaction, increases the inflation.

(4) Thirdly, resistances to the sudden and not well organised production cumulate and are greater than they ought to be. The Diminishing Returns become conspicuous, and act heavily, so that ultimately the rate of supply begins to fall relatively to the rise in the prices offered. In more technical phrasing, the inelasticity of supply shown in the beginning increases in the course of time.

(5) Fourthly, the elasticity of the expectations of the businessmen and producers at the beginning of the war is much greater than unity in those lines which may be described as war lines. This produces a very strong tendency to hold up products and factors in the current period in expectation of the future higher prices.

While this is shown in the Supply markets, the Demand markets also reveal similar tendencies, owing to the fact that the value of money falls largely. When the value of money falls and has a tendency to fall continuously, people (consumers) have a strong tendency to hold up stocks in preference to holding up money.

These two sets of withholding forces have their effect on the supply. In peace times the expectation play less effectual part, and the utmost that these expectations produce is the cycle.

As a result of these peculiar conditions that are absent and different from peace time activities, the understanding of the War Economics becomes very difficult. And these certainly do not make all the story.

Further embarrassment comes from the effects of a war on the Foreign Trade of a country, and the depth of the embarrassment is dependent on the importance of this Trade for the economy of a country. A war need not at once put a stop to the Trade, but it may cause a very considerable unbalance between Exports and Imports; and whether the Exports are in excess or the Imports, the consequences are very much upsetting or likely to be so, if they are not guarded against. For, neither exports need raise the level of price and production in the country nor imports depress that level for the time being, as is ordinarily supposed to be the results of Excess Exports or Excess Imports. The two together also need not affect directly and favourably the rate of production and standard of living, while both may in war time contribute to the gathering momentum of inflation. Exports may mean additions to currency which cannot be used for consumption or expansion of export industries. Such money accumulates idly and causes the state to find ways of attracting the funds. Imports are mostly for war purposes, and so they need not lead to contraction of currency; and the imports of consumers goods fall heavily with the consequence that the actual decline and the anticipations of further decline or stoppage induce the importers to hold up stocks or sell them only at fancy prices. There being nothing during a war period like international prices, the whole problem of imports and exports produce effect only on national prices, real stocks being behind the price changes or not.

Yet it is evident that all these conditions or new forces are not unfamiliar and they are not also inexplicable. One may consider the changed conditions along with the possible effects on the supplies (additional), and arrive

at the total changes in the economic structure. This total change may be great or small, according to the scale or duration of the war : and the minor changes permanent or not. But, as already said, the difference is in tempo and amplitude of the war-cycle ; and adjustments are required to be made only in respect of those two, with all their implications. These adjustments must begin from the factors and end in the products, covering the whole cost and price systems. The relevant forces that come into play are heightened expectations of rising prices (which may jump to peaks at once), and complicated frictions. These underlie ordinary cycles also ; only the intensities or magnitudes are different. With proper safeguards, the control of war-economy would follow the same lines as that of the cycle.

CHAPTER II

ECONOMIC CATEGORIES (IN A WAR PERIOD)

By Economic Categories are meant the classes of factors (or products out of factors) showing certain special tendencies and features in war time. These Categories of goods, services and factors are economic because they are amenable to the principle of choice in regard of application to several ends given, so that the least costs are always found out yielding the best advantages.

The primary Categories, of course, are the same as in the peace time, *viz.*, Labour, Capital, Transport, Raw Materials, and Management and Administration. The War conditions only enhance the value of each Category owing to the changes in the demand and supply conditions.

(1) *Labour.*—The economic value of Labour is raised by the reduction in supply owing to recruitment on the one hand and costs of supply to the war employments on the other. The reduced supply is a cause of higher prices, and so also the increased cost of particular supplies. The first is due to the absorption in war of a large number of men and women, and the second is due to the changes in employments of which there is a high demand. Of course the need for unskilled labour falls ; that of skilled labour rises at once, but the reduced supply affects all labour in a similar way. Besides, the so-called labour goods being available only at higher and higher prices, or in less and less quantities, new problems in wages and consumption appear. Where full employment does not exist, the

degree of the economic changes in value may be different, but not in nature. The main problems, however, are (1) the time taken to get the adequate supply and the costs ; and (2) that the marginal productivity of Labour so obtained does not fall in time. These are important considerations, and calculation of labour potentials, in order to marshall these up for supply purpose, does not solve these. On the part of labour, there may be a strong suspicion, owing to the rapid rise in the price level of things and services, that they are not receiving the right value of their productivity ; and it must be stated that the suspicion is not quite unfounded. Too quick changes in the value of money makes it difficult to give out a fair monetary measure of real productivity. If it is so, there are reasons to think that the idea, when strong, would adversely affect supply of labour and productivity in several employments. This will be an economic loss, which may not be discovered until the evil has advanced far. Certainly Labour is a more delicate factor in war time than in peace time.

(2) *Capital.*—War time capital will be discussed at length in one of the Appendices. Here the general tendencies affecting the growth and employment of capital need only be given. The rate of growth of capital in war time is a complicated business that can be found only by statistical figuring. In uncontrolled economy the profiteerng tendency may cause much savings that remain uninvested. The decline in consumption also increases the margin of idle savings. But against these two may be put (1) the high taxes on profits and incomes ; (2) the high taxes on all possible articles of consumption ; (3) high costs of living. The result of these interacting forces at work cannot be exactly guessed, and capital (*i.e.*, investable funds or savings)

may not grow at the expected rates. The state whose investment in production increases vastly for the purposes of war certainly attracts to itself all the available savings, by forced or voluntary loans ; but if the rate of savings is actually less than the investments, or if the latter exceed considerably the expected rate, or the expected rate is far greater than the actualised rate, a dislocation of economic activities may occur, unless the state issues new money and credit to fill in the gap. A fixed rate of Bank interest may also produce imperceptible repercussions, causing surprising alterations in the relation between money and real rates, and affecting investments even for war purposes on the part of the private capitalists. In this connection Keyne's idea that capital will be available at a low fixed rate of interest may be instructive. It is granted that the war period does not afford many opportunities for investments in other kinds of production than the war production; but even here there is a marginal reward. This reward in the beginning may be greater than the money rate of interest, but with the rise in prices, *i.e.*, in the fall of the value of money and lessened marginal productivity, the real rate may fall in the course of time below the fixed nominal rate. Private enterprise will then slow down and slacken, leaving the burden of production to the state, which will borrow from the capitalists and pay interests without the latter doing anything for production. The problem of capital in war time is, from productive and distributive point of view, the most complicated one.

(3) *Transport.*—The third category is Transport. It is regarded in peace time to be rather elastic in supply (and on the increasing return basis), and inelastic (comparatively) in respect of demand for it. In war time this is changed. The demand rises, but not the rate of supply

with the rise in the offers of demand price. The inelasticity of supply becomes marked, and that is true for the whole. This may be due to the difficulty of capital constructions in the war period and the surplus capacity being used up, the higher excess demand for transport continues, affecting all other commodities and services in an adverse way. And it is certain that the influence of transport on the supply of other factors and products is of vital importance in economics.

There is no obvious reason why the supply of transport should not be increased by capital constructions or increase in the supply of road transport. The most pressing reason for effecting this kind of addition is the fact that unless the increase is there, it will be an unsubstitutable factor to a larger and larger extent and would cause diminishing returns in all the products and factors, as transport enters into all economic products and factors. The idea that large scale capital constructions are impossible owing to the scarcity of factors for this purpose should be abandoned at an early date ; for transport is a war requirement of the highest importance and new capital must be invested in the production of the capital goods here. Otherwise, all the price and cost system will suffer and unfavourable effects may be produced on the conduct of the war.

(4) *Raw Materials.*—The fourth category of raw materials is important as it shows various degrees of potentiality.

The two subdivisions in the category are (1) agricultural raw materials, and (2) minerals. A third subdivision may be chemicals which may be described as bases or intermediate goods as one prefers to call them.

The potentials are different for these.

Agricultural and mineral raw materials are limited

in the matter of potential supply. The supply of these can be extended to a certain degree or extent, and no further. Consequently unmeasured demands may produce here an expectation of scarcity. Anticipations play a large part on the supplies by the hold-up of current stocks, or preferential employment. The consequence of such a condition of things will be to raise prices far above costs—prices being scarcity prices rather. The absence of imports would accentuate this position, and the most obvious, though incorrect remedy is sought in ration and control. As for the chemicals, they may have high potential supply, and even at falling costs of production, though the most prominent characteristic of this category is certainly the anticipated scarcity.

(5) *Management or administration*—is the most important problem. In wartime the state takes over active management to secure co-operation and co-ordination. But the process may be inevitable or not. It, however, has obvious pitfalls to be guarded against, and as profits do not provide a measure of efficiency in war time, economic losses may go undetected so far as management or administration is concerned The difficulty of the management is increased by three factors, *viz.*, (1) the uncommonly vast enlargement of the scale of operations; (2) increasing resistances to such enlargements or expansions; and (3) the atittude of officials who seek to overcome the resistance by political measures. Care will have to be taken to see that these factors are controlled, and the difficulties reduced considerably, if not altogether overcome.

It is, therefore, necessary to understand the changed nature of the several economic categories, in order to understand how they can be put together in war time conditions of production and distribution. The categories are

certainly difficult and of high degrees of complexity. When they all work together, the resultant activity is much more so, making war time economics a very difficult study, but not so much distant or remote from peace time economy as to be quite unrelated.

The special features are, as already said, enhanced values for the specific purposes, and to this enhancement the time factor largely contributes. The main effect of the demands and increased pace or rate of demands is to force expected prices up in most urgent lines, all of which require control. The costs of shift, transfer or substitution may also rise, but these do it at less quick rates. The problem is either to bring the rates of rising demand and supply to harmony, and to bring the rising prices and costs together, and that without any violent shock to the existing economic system. That alone will prove the flexibility and elasticity of the system, which, if not very rigid, ought to be capable of the extension in the given time. Yet this is not a practicable proposition unless the principles and conditions (special) are brought into the clear light

CHAPTER III

CONTROL AND REGULATION

THERE is an idea that a war on a large scale may mean very vast and sudden demands on goods and services, demands that in their range and depth may as by their very force disorganise the existing supply system and economic order. This sort of idea led many belligerent countries to plan the economy of war in anticipation, as in Germany or U.S.S.R., so as to maintain the war at the least cost and with the highest standard of efficiency. Planned economy is an accepted order of things even in peace time, in spite of the objections by some orthodox economists. In war time this may, therefore be resorted to with greater reason, and such plan may imply an effective and comprehensive control of the whole economic order long before the war.

Evidently, planning is based on previous experience and closely suited to the particular purpose in view. But whether it is the economic consideration that dominates the plan or the political end (*i.e.*, the final victory), cannot be said. It is just possible that the latter happens, and then, of course, planning has no significance in economics, as the principle of finding the least cost to the community may be quite overlooked in that case as it probably is in most of the belligerent countries.

But none the less one can examine only the economic aspect of such plans with the scarce means and the given ends. The first step is to take an exact account of the possible and probable excess demands on a time-scale, quantitatively. The next step will be to consider.

(1) Immediately available supplies of goods and services (and factors) that can be transferred to war-purposes without pressing too hard on civilian consumption. The level of costs and prices for such transfers should be noted.

(2) Potential resources that can be worked up during the planned period, with the costs of the additional supply and the marking of the demand prices in agreement with the probable costs, and the necessity for maintaining the rate of additional supplies.

(3) The consistency of prices and costs in (1) with prices and costs in (2) so that a desired general level of prices is maintained and no diversion of factors or products takes place through movements in prices or costs unless it is in the desired employments.

(4) Examination of the several ranges of incomes or rewards in order to ensure such distribution of real rewards—manipulated by taxes and loans if needed—that no disproportion of a conspicuous degree may come about. It is also to be seen that the money income at the disposal of the factors or classes of people is not in excess of what is required for consumption at a given price-system. No private expectations should exert any disturbing force, though the inevitable uncertainty of future production will be there. The essence of planning is to effect the necessary changes in the structure of economy within sharply marked limits.

Naturally, the execution of the plan is very difficult, because it will require attention at all points simultaneously; and control and regulation will only reduce the

economic issue to a matter of choice for the authorities. And, the determination of the most advantageous choice, though based on experience, is yet open to question even in theory. What are the determinants ? How can an element of arbitrariness be avoided ? As costs and prices are all controlled, comparative advantages of different choices cannot be properly judged. All this can be granted ; and yet it is obvious that given a set of values or system of prices and costs, certain combinations offer better prospect of productivity than others,—and this is the essence of the General Equilibrium Method,—and these combinations can be discovered and worked. The emphasis on the particular war requirements help also in war period to determine choice and the direction of the investment of resources. The fixed values would not stand much in the way, if the fixing is done intelligently enough. Only the time factor is a doubtful one. That additional supplies will take time is easily granted. But the question is if that will help or retard the desired rate of production. One cannot say.

The main difficulty, in such a rigidly planned economy is presented by the human factor. Profit motive being checked, there might be a lack of inspiration, and a decline, after some time, into indifference and relaxation of efforts. Patriotism or promises of future rewards or victory may not be always banked upon ; nor can there be any sustained moral stimulation by propaganda. So it is very difficult to find remedies for a possible breakdown of the plan through the psychic resistances that gather in the course of time. The moral strategy is, therefore the most vital thing in planned war economy and as a matter of fact in all planned economy. So far as economic principles go for such plans, they are sufficiently rational, as it cannot be said that they are not

founded upon existing facts and experiences on which final decisions are based.

But all countries may not be prepared for a war before time, nor need the conditions prevailing at the outset be favourable for planning on comprehensive lines. Besides, it is wise to leave some scope for private enterprise and initiative, which will obviate the need of devising a moral strategy as in the planned economy. Where a certain degree of free enterprise and private initiative is the basis of the economic order,—and long habits may create attitudes of rather high strength—plan and control must be introduced with discrimination. And it is the discriminatory control that is very difficult to put on a scientific basis. Yet, if such control is not effected according to the laws of economics, there will be chaos at the time of the war, and worse in the post-war period. The experience of the last Great War ought to be a warning. Discriminatory control and regulation are to be exercised on certain parts of the economic field in order that the rest may function the better according to the known laws or principles. For this the first thing needed is to find out where the control and regulation will help nature and where it will not. The second thing will be to eliminate expectations or to keep it to a certain desired level in some lines in order that expectations in other lines are kept to the right level. Both these are complicated by (1) the increased total money income owing to increased employment and reduced consumption, and by (2) uncertainty of supply, if not of demand. The state must go very warily; if its control is not scientific, the burden on the people will be a sort of vicari ous sacrifice; and if it controls inadequately, prices and supply conditions will at once reflect it in the most disheartening terms.

CHAPTER IV

PRINCIPLES OF DISCRIMINATORY CONTROL

DISCRIMINATORY control may extend to the factors and products. This is only a general statement. It means different degrees of control over several factors and products and a consequent automatic control over all factors and products, agricultural and industrial.

The main feature in agriculture, including food and non-food, is its inelasticity of supply. The area of land in a country is limited; and though inter-marginal substitution of land between different products is possible, such substitution is limited by the total fixed supply and inertia. Food production, however, is a primary activity and is always equal or tends to be always equal to the minimum need of a population at a given time. Natural forces drive all this and they cannot be resisted for long. If there is scarcity in one year, it will be in all probability made up in another. In other words, the economic law here of the food production carried to the remotest margin is operative here, and this operation cannot be checked, in spite of all the methods of distribution of supply. Now control over this seems to be the easiest; but on that account alone, control is unncessary. On the contrary control will probably produce undesirable effects, affecting fears of scarcity and sending up expectations of scarcity prices, and so lead to the hold-up of stocks. Even in the pre-war U. S. A. price and supply control policy under the Agricultural Adjustment Act proved to be ineffectual. So control, whether in war time or not, is apt to create obstructions

rather than remove them ; and so the food supply will be the first category to be put beyond control. This is not very obvious a conclusion ; but it is true in spite of all that.

As for the non-food products of land, the demands for these being composite, the excess demands may rise on all sides, while the supply is variable only within very short ranges through inter-marginal alterations. The possibility of such changes and their ranges (maximum and minimum) may be found out because the total supply of land is limited. The various degrees of preferences for these non-food products, or the experienced urgency of demands, would also help to fix the inter-marginal lines. The system of preferential employment is ; therefore, the secret and basis of control ; but the determinants being accurately measurable, control and regulation by the principles of supply, demand and substitution, need not be very difficult—the degree of substitutability being very low or restricted in the nature of things. The importance of control arises from the fact that if unregulated, the higher demand prices for non-food may lead to such increase of supply as may put pressure on food supply and affect adversely the prices of food or its supply, thus producing real scarcity and economic maladjustments. Control of factor-products like cotton here will be the first step to the control of production and supply, and the control must be in harmony with the natural tendencies in food supply.

The range of factors and industrial products need be all controlled for they are comparatively of elastic supply, not in the short period, but in the long. But here again a few distinctions can be and ought to be made. Increasing costs would be a common affair in all additional supplies or new supplies, though in some the limit

of economic supply will be more easily reached than in others. In the latter the limit will be uncertain as there might be new capital constructions possible also. The first series or group must be distinguished from the second; and control or regulation should be avoided in the first and exercised in the second, on the fundamental ground that the supply will not be increased in the one, while it can be in the other. Of course, care will have to be taken that the pressure of demand in the first series does not create a fear of scarcity or undue speculative and general hold-up of production in the current period.

It is the control of the factors, relatively to the entire demand schedules for a period that is most important, the control and regulation of products being required in certain instances. The prospects of the price-changes of factors, and the relative movements of factors and products, are what ultimately regulate the flow or the rate of flow of supplies in general by the methods (1) of substituting current for future production and *vice versa*; (2) by hold-up of factors at the current time for future use and *vice versa*. In other words, control and regulation will be effectual or not, necessary or otherwise, according to the play of the expectation with respect to the movements of expected prices and their effects on factors.

Now, there are certain very well-known economic laws about the movements of prices, expectations, and the effects on demand and supply in a given system, when there is excess demand. These are (1) if there is excess demand in any part of the system, there will be movements in the whole system to make up to that; and (2) if there is excess supply, movements will take place in the whole system to adjust demand to that. The actual total quantity of excess demand, unless

it is disproportionately large beyond the actual and potential economic resources of a country, is no matter. If, however, it is far beyond the productive capacity or resources of the country, the only way out is to borrow from outside on the most convenient terms available, provided there is sufficient credit for such borrowing. The British " Lease and Lend " borrowings are an example. Where potentials and actuals can reach out a given magnitude of borrowing is necessary. Again, where borrowing means ultimately greater advantage than producing at home—a policy and principle tried in the beginning of the present war in the U.K.,—borrowing is economical. But it is possible that the range of borrowing is limited, and the only resources are those of the country, and these should be economically used. The excess demand (the actual excess, as already said, is irrelevant so long as the excess can call forth through higher immediate price more offers of supply) means a rise of prices, or expected shortage of supply. The rise ought to be inversely as shortage of supply (expected). This rise may itself vary at different points of time; but at every step it ought to have its proper determination. It is, however, possible that the elasticity of expectations in some is greater than unity, and there the expected rise in price by suppliers is greater than the actual expected rise as found by the exact statistical calculation of demands. Here comes the trouble. Such feverish expectations must be discouraged or extinguished or reduced by actual announcements of demands and prices and potentials. There is something else. The series of demands is one of substitutable and complementary demands, and the series of supplies is also a range of substitutable and complementary factors, or factors and products. Economic laws

formulate that the rise in prices in the substitutable part is common, and while this happens, the prices in the complementary parts fall. This is quite intelligible. The excess demand (and excess supply also signifies excess demand for factors) of *a*, *b*, *c*, etc., is sought to be satisfied by the substitution process, and the prices of substitutes rise. The complementary series for *a*, *b*, *c*,... are not demanded, and the purchasing power used for them is diminished, (unless an additional supply of credit and currency is there also) and prices in this range fall. So when the rise is confined to the substitutable parts, or when elasticity of supply is remarkable, control is to be exercised because the substitutability itself is likely to be a rather indeterminate factor owing to the irregular play of expectations. The fall in prices in the complementary series is also likely to be checked if there are obstructions, *e.g.*, more of additional money or fear of scarcity, or mere speculative hold-ups; but such cases cannot go on as steady or lasting influences. The continuous rise in the range of substitutable goods and services will prevent the rise of prices or even the maintenance of undue high prices in the complementary range. The obstructions in the range can be eliminated or sought to be eliminated; but it seems that direct intervention in the series or range might produce undesirable reactions.

The whole field of war time demand and supply must, therefore, be first mapped out with as much precision as possible. One can take the demands first—taking care to distinguish in each category the substitutable and the complementary ranges. Calculation of the excess demand in each line is possible, given the market, as Marshall says. These demands will be :

(*i*) A = products needed for war equipment in a calculated period.

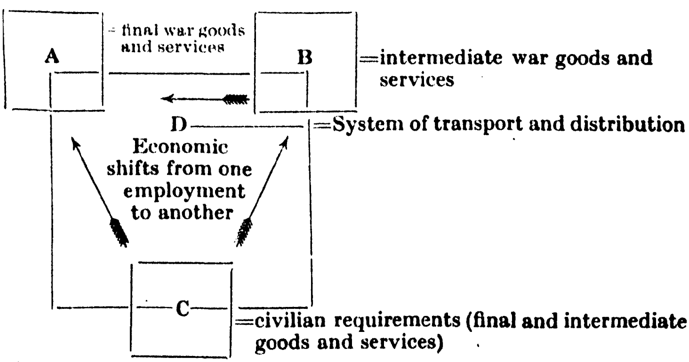
(*ii*) B = products needed as intermediate goods in 'A'.
(*iii*) C = products needed for civilian use.
(*iv*) D = products needed for miscellaneous, but mostly war purposes, for instance, transport and distributive or assembling services.

Evidently, A, B, D are complementary, and A, B, D are substitutable with 'C'. Of course, the factors for all A, B, C, D are distinguishable as substitutable and complementary also, governed by the economic laws of excess demand and supply within each category. Accordingly, a series of very complex price-cum-supply movements are there, first owing to the relationship of the categories (main) as given above, and then according to the relationship of demand and supply, as concerning substitutability and complementarity of factors and products in each category. But though it all looks formidable, yet it need not be so in practice, because the ranges of goods and services (products), and of factors are not very extensive. Calculations from actual statistics would reveal the substitutes and the complementaries all through, if the data are carefully considered from this point of view.

The excess demand in each category, as said above, will produce a trend of rising prices in the substitutables and falling prices in the range of complementaries, unless obstructions are there. But it is possible that the substitutables in the one category are the complementaries in another, and this may stand also in the way of the operation of the laws in the whole economic order. Of course, so far as this is the case, there will be plea for control over the whole ranges of factors or factors and products, though carefully applied so far as each particular category is concerned. But the probable obstructive causes may be (1) the tension in the whoel

market created by vaguely felt demands ; (2) changes in the money holdings that may disturb the relationship (in demand and supply) of substitutables and complementaries ; (3) transport impediments or faults in the distributive or assembling services ; and (4) indiscreet taxation. Of these (1), (2) and (4) are parts of a financial control, and (3) requires separate control.

The price and expectation control is not effective unless transport is also controlled and made adequate to demand. In the Chapter on Economic Categories, this point has been urged. As a whole, transport is complementary to other products—but, again, within its own range it must be adequate. Shortage of transport will affect adversely all other products and factors ; and at the same time, the substitutable part of the whole transport can be used to emphasise and regulate the supply of other factors. Let the following diagram be studied :



Note.—**The pull is from civil requirements C to A and B and from B to A through D—namely transport and distribution, which may tend to hold up movements.**

Whenever in A, B or C prices are higher, comparatively speaking, factors will tend to move thereto. While prices in C are rising, those in A and B may fall, and an undesirable movement of resources may be expected. This can be prevented by using the substitutable parts of transport and distributive services. And what can be done in respect of the general categories, can also be effected in respect of the substitutables and complementaries within each categories. In other words, D, entering into the supply of all factors and products is as much useful an instrument of control as currency and credit itself. Mere monetary measures are not finally effectual, as experience has shown.

The principle that is to be particularly kept in view is that all prices and quantities need not be affected equally —that some would find their natural level in the special war-time conditions, while others would have to be controlled. But the two parts require to be sufficiently marked out, and care should be taken not to permit the one controllable part to affect the uncontrolled part, (usually in the technical language of economics, they are the substitution and the complementarity parts respectively). Only undue elasticity of expectations in certain respects can cause confusion, and such elasticity (with more than unity co-efficient) need be regulated.

For, the most uncontrollable element is expectation. But the study of the war-time expectations shows that this field is not so uncertain and vague as the peace-time expectations. The excess demands being always there, the expectations may be greater than unity, but indeterminately so only as long as the demands are kept secret. The first step to counteract the effects of feverish expectations that are born of and fed by profiteering is not the excess profits tax nor

other taxes, but the clear and precise announcements of the excess demands, removing all errors of anticipation, and moderating the elasticity of expectations, or too optimistic a bias. After all expectations are measured in terms of present and future quantities of demands and supplies through an adjusting price-movement ; and if these three factors are made sufficiently determinable beforehand, the psychic disturbances must diminish and be determinate also, and the whole uncertainty element will be reduced to the minimum.

CHAPTER V

THE MONETARY CRUX

PUBLIC Financiers are preoccupied with the inevitable expansion of currency and credit in war-time and the spiral of inflation. How this aspect of the problem is to be handled has already been widely discussed and shown by economists like Mr. Keynes. They advise among other things (1) a low rate of interest; (2) widespread offtake of surplus savings; (3) control of profits; and (4) heavy taxation as far as possible without pressing with undue severity on the means of living. These measures are not easy to practise; and where they are adopted without any attention to and critical study of the economic and financial context, they may produce unexpectedly bad effects. The low rate of interest, as already remarked, may ultimately throw the whole burden of production on the State. The offtake of the surplus funds may induce people to spend more currently. Control of profits, without a control of costs and prices, would affect supply badly; and lastly, taxation of incomes or services or goods may, by reducing the purchasing power, throw the whole burden or the major part of it on the consumers, causing irregular distribution of available consumption goods and services. So the application of each measure requires at the outset a very careful examination of the context, and the applicability of measures. Even taxation of money incomes presents a difficulty, as the value of money may be varying, and the budgeted rates of taxation may be eventually quite different in real value from the amounts collected or raised.

If carefully applied, however, these methods of controlling money and credit in financing a war must produce their good and protective effects. The monetary problem, as far as prevention of inflation goes, is simple, though as a system through which supplies are regulated, it is very complex and depends on outside relations. The inflation aspect can be presented as follows :

Let the pre-war money income be $= K$

Let the war-time (in periods of 1 year) additions to this income be $x_1, x_2, x_3 \ldots$

If $(K + x_1, x_2, x_3 \ldots) >$ costs of production of goods and services consumable by the people, (the production for sheer war purposes being excluded from the calculation of these costs of production), then the difference is likely to compel prices up, though unequally, in the several markets for such goods and services. So this difference must needs be taken off as a whole, in order to make the money income keep close to the cost of production and supply in these lines of goods and services. The financial measures as described above are concerned with this off-take, and certainly the offtake is effected to a certain extent. But the amount to be taken off will not be exactly calculated without the whole prices, wages and profits, (along with interest) systems being determinate. And the machinery for the offtake may be resisted in operation by the peculiarity of the expectations about the fall of the value of money in immediate future. If the fall is expected, people will substitute holding of real goods in the current period for holding of money, and this certainly increases the circulation velocity of money, which is difficult to check. Only a firmly established range of determinate prices and costs can prevent an infectious fall in the value of money and discourage such expectations.

This brings the crux of the problem of money and credit to the forefront—and it is the adjustable relation between prices and supplies. Inflation is objectionable because it retards the rate of supply and even the quantities. The supply is to be kept up in all directions and that at the expected rate. Commandeering of resources is not possible, unless the resources are all in the hands of the State for sometime or imported from outside. Dependence on the voluntary movements of factors into desired channels must always be there, and this can take place only through the price-system. So it may be desirable to have prices so fixed in time that the necessary inducement for the additional supplies is there; and this inducement in practical terms is provided by allowing an "excess profit," however small. The difficulty is, however, that (1) the rate of excess profit tends to be a progressive rate; and (2) that the actual excess is much more than the calculated excess; and (3) the offtake of the excess leaves to the supplies something that cannot be touched, serving as an undetected inflationary cause. In an undeterminate system of prices and wages and profits, this difficulty is stronger and more disruptive.

Withdrawals of the surplus purchasing power (as determined by changing value of money) and holding them in reserve as State obligations of future may raise new problems in Public Finance; but what is sought to be pointed out here is that the withdrawals may have very intimate relations with the whole system of supply (additional) and its rate and this aspect is the most important aspect of withdrawals. The machinery provided together with an examination of capital issues may not prove adequate, unless the machinery is set to work in agreement with the economic

forces at play. The withdrawals—which are put back again,—through a time interval—must also be such as not to affect undesirably the distribution of the purchasing power in the current periods as also in future periods. Unorganised money and credit-control —through uneven purchasing power effected or aggravated, or through inadvertence and incompleteness—may let in a lot of illegitimate profiteering and, what is worse, the Black markets.

But in respect of the financial control, attention has to be paid to the speculative deals in the share and stock markets (which are a part of the capital market in ordinary times). As the industries, existing and newly created, work intensively and, if uncontrolled, may make huge profits or expect to make such profits, the values of stocks and shares rise, and speculations push them still further, creating a bullish tension in general.

In ordinary times, such tension might indicate the changes in the production of things or services. But in war-time, the bullish tendency may do harm, because they divert capital from necessary employments, and in the spending of the unearned speculative profits in the markets helps the inflation, and even encourages the black markets. At any rate, the deals do not, and need not, be used any more for indication of productivity rates or conditions, and they only serve to increase the volocity of circulation of money and credit. So the essence of the monetary problem is not simply to prevent by anticipation the play of the inflationary tendency, which cannot be effectually controlled unless expectations are, but to see that supply is not retarded by the tendency ; and that inefficient control or imperfect control may not divert supplies into the Black markets which are maintained by the unspotted increase of purchasing power in many hands.

CHAPTER VI

BLACK MARKETS

BLACK Markets are a product of unscientific and mismanaged control policy. They are objectionable because they stand in the way of the execution of the policy ; but it is true that they represent for much of the period in consideration, the natural Demand and Supply forces, current and expected. The origin of black markets that may appear everywhere, is in the very economic conditions prevailing at the outset and sought to be controlled suddenly.

Let the current supplies be 's' and future expected supplies, s_1, at prices p_1 and p_2 (average) the actual future prices may be p_x, p_y, p_z..., spread out in time. The state may decide that the 's' and the 's_1' or parts of 's' and 's_1' be supplied at a current price 'q' and at q_1, q_2, q_3,... in future, (or simply at 'q_x' for all time until future notice). Such a decision may be taken with the idea of controlling 'markets' *i.e.*, of preventing prices from soaring at once, through speculations. But if the actual market prices and the state-fixed prices disagree, *viz.*, if the former represent Demand and Supply forces more correctly, then the repressed or, neglected, forces will give birth to black markets or unauthorised deals for current or future periods. Theoretically, therefore, there is no reason why the Black Market prices will always be higher than the fixed Government prices, and as in the sterling markets in the beginning of the present war, the prices may be lower. But whether higher or lower, these markets, if they multiply, will obstruct the state's policy and disturb

the course of supplies. They divert the employment of the available means from the desired ends ; and, when the black markets develop strongly, the state would be forced to get supplies at the prices dictated by these markets ; for, when the demand prices are higher in black markets than the Government's, supplies will move thereto.

The state usually forbids unauthorised deals, current or future, in order to prevent or suppress these markets. But the method may be effectual or not, according to the area of control and the searched stocks carried or likely to be carried. As the dealers in the markets profit by these transactions, they would continue to do it until profits fall to a point at which the speculative deals would not be paying. But long before this point is reached the commodity and money markets are disorganised to such an extent that the situation may be intractable. The whole thing can be put as follows :

Let there be a number of Black Markets, A, B, C, D, ... etc., for commodities and capital or exchanges. There is the fundamental axiom that buying and selling take place in these, that is, there are effective Demand and Supply of commodities or capital. The stocks may be old stocks ; and current or expected stocks will find a way into these only secretly, but a control on production or capital formation or exchange resources of the current period may check the flow of current or expected stocks. If the check is not applied rigidly, leakages will persist and there will be no remedy in spite of prohibitive regulations. Let it be, however, supposed that the quantities of the old stocks and the unauthorised new or expected stocks are sufficient to keep the markets going.

The first thing to be noticed is that the Demand in general in the war period is usually very high, currently

and in immediate future, until expected supplies are supposed to rise equal to the expected demands. In very few exceptional cases, the current supply or the expected supply is supposed to rise higher than the expected demand. So in the first, prices higher than the fixed prices, and in the second, prices lower than the fixed prices, will end in future transactions. The first phase covers the activities due to an exaggerated estimate of immediate shortage, and so the current prices (spots) will be affected strongly by the futures. Of course, a large part of the commodities and capital must ultimately pass on to the consumers, of whom the state is the most considerable ; but meanwhile the deals in the black markets would tend to divert supplies or demands, and that may result in creating a confusion.

Police methods are not certainly the best. The proper course of policy with regard to these markets is first, to discover the old existing stocks of utility and non-utility goods and of capital, before the fixing of prices, and to count them separately. The next step would be, before declaring prices, to estimate new production and supply of factors. When all this has been done, demand and supply schedules for all the goods and capital should be made out, according to the calculated co-efficients of elasticity of Demand and Supply, and on the basis of the existing stocks. Then only prices will have to be fixed. It may happen that even then the expectations are active in an opposite direction ; and these shall have to be checked by announcements, and then by a check-up of the stocks, so that they are not diverted into the black markets. The whole set of measures is, of course, subject to the condition that the control must follow the right interpretation of the current and future demand and supply, and would

seek thereby to give the just expression to the expected play of economic forces. The initial first move exploiting fear of scarcity must be reduced in particular, as otherwise the appearance of these markets cannot be checked at all, at least for sometime.

CHAPTER VII

POST WAR CONSTRUCTIONS

THE chaos that followed the last Great War, a small affair in comparison with the present war, has naturally forewarned all economists. Thoughts on, and plans for, post-war construction have, therefore, been conspicuous from the very beginning of this war. That such thoughts and plans are premature, and largely based on ignorance of many essential factors in the eventual post-war economic situation, is obvious. None knows, nor can imagine, for example, the conditions of the parts of the world occupied by the Axis powers, and it must be admitted that Europe, which has so far been the main area of economic activities, is still shrouded in mists. Besides, the present war does not as yet appear to be very intelligently managed all over the countries with the so-called private initiative and enterprise. Much has been done and is being done under compulsion. Necessity has broken the smooth application and operation of intelligent economic and financial principles, and none can as yet guess as to how far this necessity may go. For the time being the war signifies wastage and sacrifice on a world-wide scale. Wars of this magnitude consume much, and change the distribution of raw materials all over, and make the recovery of these resources for civil and economic purposes a very costly affair. How high these costs will go cannot be guessed. Besides, there will be not only a great change in the purchasing power of each country concerned (the exact nature of which change cannot be determined now); but the war may

also end in such conditions in each country as cannot be foreseen, unless one can have a clear view of the prospect and definitely guess the whole course of war. Calculations necessary for detailed plans of post-war constructions are likely to miscarry, as such calculations must proceed from inadequate data or ill-understood factors now at work.

Post-war constructions can be planned, if the war economy has been planned, or at least carried out with an intelligent adaptation of means and ends until the last moment. As Keynes once said a war signifies real resources employed rather than money. It is the question of the possible redistribution of the resources of the world that must be satisfied first. This construction can be and will have to be considered from a national and also from an international point of view. A belligerent country would lose much of materials, though it may have new increased supplies of technical labour and new technology, and a sense of new wants and new possibilities of manufacture. Yet it is an economic fallacy to think that a war would help to industrialise a country like India directly ; for, no manufacturing plans can be set up on the basis of the war-time demands for things and services. It is true that new industries may spring up in war-time, and many old ones may find out new lines of production ; but in economics industrial production is closely related to markets, which are obscure in war-time and cannot be figured out with any approximation to exactitude.

Certain eventualities can, however, be guessed from planned and controlled war-economics, provided it is seen that the wastage is not more than what cannot be helped. The schedule of available supplies in the post-war period may depend on the intelligent conduct of war as

said already. A certain level of prices, say, P_x, is foreseen at the end of the war, the price being what the expected decline of the war-time demands and supplies would bring about; and the purchasing power held by the State in favour of the people of a country should be used to maintain that level of prices. This being settled and the war-time use of materials and the technique and technology being considered, the supply schedule can be made out by the consideration of the probable costs. That it would mean at the outset increased costs of acquiring materials (raw) is natural. This would be accompanied by a higher (relatively to pre-war) labour costs in all probability. The only economies that would be made must be technical. Intermediate products would also be costly—more so than in the pre-war dates. The resultant combination of all these factors and influences cannot be exactly foreseen in a time perspective even after the war ends. But some guesses can be made out here from a national point of view only at the outset. National demands and supplies in the post-war period at a price Σp_k can also be imagined with fair correctness. But all this need not mean that the war-time production of industries would help. As already said, the idea that a country can be industrialised during the war for post-war period is basically wrong. What is correct is that the potentiality for such industrialisation becomes more easily calculable, and so a clearer light is thrown on what can be done by the way of industrialisation. Such knowledge will come very slowly but steadily, if the war is not permitted to throw everything into confusion.

The international field cannot be guessed; neither its extent nor its exact shape until the war is finally over. It is only then that the actual economic conditions and the prospects of international production and

tribution can be considered. There is a certain amount of fatuity in such premature flares-up as the Hot Springs Conference. How can there be deliberations about world Food Supply, when it is not yet known how much of the world population will survive, and how the other resources for which food would be exchanged, will be eventually distributed? Nor is it possible to calculate the eventual distribution of the purchasing power of the world, or as a matter of fact, the possibilities of credit supply. The Hot Springs Conference is a U.S.A. move to maintain its agricultural production and output level likely to be reached during the war, and to prevent a recession like the last Agricultural Depression in the post-war period. What part a country like India can hope to play in it is not clear. As it is, the food production in India has got to be extended to the outermost limits for the sake of its increasing population; and the future of India's food depends on her increased capacity for industrial production. In this latter bearing India may also be an eventual purchaser of the U.S.A. food supply, while U.S.A. may take away a lead in controlling the food supply of the world, having already had built up its huge credit supply capacity also. One can never judge if this would really be a solution to the food problem; and this is a problem which can be solved without reference to the other kinds of production-capacities of the countries of the world. The results of the food conference ought to be read along with Wendell Wilkie's reference to the "sponges" that the Far and Middle East countries may become.

As a matter of fact it is not the part of Economists to build, now on an imaginary international field. Not even the remote probabilities can be calculated. Pious

hopes like an international currency unit (now being devised) and monetary organisation are not depreciated; but such hopes must of necessity have to be discounted a lot also. The Allied Powers, mainly the U.S.A. and the U. K., think of having a sort of planned international economy, whatever the eventual position is. But all this is to be treated as rather too much of pious wishing outside the scope of science.

So in respect of post-war construction the inescapable conclusion is that such construction can be guessed without much of error, only from the national point of view, if the war-economy is managed with more deliberation and regard for economy than has hitherto been done. Probable schedules of supply and demand for the country itself are not beyond the perspectives. But nothing should be done unless the international field is lighted up and the new economic world is understood closely. Care should be taken to avoid commitments and settled policies here. It will be the self-imposed task of all the world not simply of the big Allied Powers, to build up the post-war world.

CHAPTER VIII

CONCLUDING REMARKS

The matter of the preceding chapters can be summarised as follows :—

1. War time economics like peace time economics must have an element of choice and there ought to be a continuity between the two. If it is supposed that a war means only lawless necessity, it would end certainly in the confusion of all economic order more costly to the people than the war itself.

2. The ends being given in war time (and to a very effective extent in peace time also), there must be an adjustment of means to ends in the usual way, and of the means generally employed for peace time requirements, though much extensive and excessive demands on the same may lead to the working up of the potentials to a very large extent.

3. But the war time economy is a very difficult one owing to the high-power expectations of rewards released all over, expectations produced by the vast excess demands and the prospects of such demands. All this signifies a cycle of a larger amplitude than the ordinary one. These expectations must be brought down to the level justified by actual and probable developments of demands and supplies, if the larger swing is to be prevented.

4. The control of expectations requires a knowledge of business psychology and economic principles and probabilities. Unless the whole control system is based on this knowledge and not simply on political or military

policies, control will develop undesirable features like black markets, and is likely to produce a deep injury that will at the same time stand in the way of the future building or rebuilding.

5. Monetary control alone would not suffice. A control of the movement of goods and services through the control of transport will be needed. Transport enters everywhere, like money, and so the transport problem is not less important than the monetary control. Nothing has been said on transport in this treatise, because like the monetary issue, it demands a very minute and statistical study. The larger the area of control operations, the bigger is the transport issue and more difficult to control economically. A war ought to bring about a development of transport like that of any other industrial or agricultural production ; but that is not exactly what happens owing to the idea that capital constructions in the war period are not possible, when even replacements are not available ; But this concept, if it is allowed to play strongly, will mean a very undesirable lack of substitutability all round, as transport enters into all economic production and distribution as a universal factor, and a diminishing supply of this would adversely affect all the economic order, creating blocks and hold-ups on the one hand, and gaps on the other, that is producing adverse time lags and lack of co-ordination. It is, therefore, desirable that transport should be expanded *pari passu* with other factors and products, and as provision for other war-equipments are made, this should also be provided for, instead of being curtailed. Of course, curtailment in less important areas may be preferred in order that extension in the more important areas may take place ;

but then there should be the consideration of costs of supply in the shift of treatment, which must not be also explained only with reference to the war necessities.

6. Unless a very sound economical management of the war is there, the post-war problems would be too deep for the economists to solve ; and a more desperate condition of things will come to prevail than at the end of the last war. It is the deliberate scientific management of a war in each country only that can give the lines of the post-war situation in each. But the intelligent anticipation of this situation need not be extended or subjected to deliberate international planning of any kind. This international field will be clear and more precisely understood only in the course of time. Unless the trend of the natural economic forces are grasped clearly, no planning will succeed at all anywhere.

7. As a matter of fact, the announcement aspect, is very important at all events ; for, announcements affect expectations, and so care must be taken to see how announcements are made of the State demands, prices, rates, and taxes. There are two aspects of such announcements : one that may undesirably retard supply by retarding expectations, and the other that may and ought to retard expectations and keep them to a proper level with the desired expansion of supply. Further researches and studies must be carried into the principles of control-economies particularly when control does not proceed from a comprehensive plan from the very outset *e.g.*, Germany's 4-year plan or U. S. S. R.'s. In countries where control is not yet fully and effectively established care shall be taken to see that the natural forces are given as much play as is consistent with the war purposes fulfilled economically ; otherwise, disorganisation will

follow, and that will baffle all attempts to conduct the war economically or to plán post-war constructions.

8. It is only a better knowledge of the war economy that will help it to be included in the general principles of economics. A war economy is that of a specially conditioned cycle of a larger amplitude than the average one. A theory of cycles ought to explain the principles and the control of this economy; and that would at the same time help to prevent economic disruption, nationally and internationally.

APPENDIX I

DEMAND, SUPPLY AND PRICES IN WAR PERIOD

LET the factors in peace time (at the beginning of the war) be a, b, c,..., at a price level (general) px; and products, x, y, z,...at a price level, py (the supply of currency and credit level being, k). A condition of equilibrium may be presumed, to start with. Let it also be presumed that a and b are substitutables, and the two are complementary with c, in the production of x; that a and c are substitutables, and they are together complementary with 'b' for producing 'y'; and that b and c are substitutables, but together and complementary with 'a'; and so on. The product x, y, z. etc., may also stand, among themselves, in similar relations.

When war time production begins with these given factors and products—(which are transferred or converted from peace time employments to war purposes), the total demand is apparently expected to be much higher, as de-investments or transfers or conversions are expected to yield only delayed, costly and difficult supplies of factors or products. The pressure of the expected excess demand may raise prices in many lines of products and also in respect of factors; but then a general fear of scarcity relatively to the total demand begins to affect all existing factors and products (particularly utility goods, though non-utilities are not excepted). This may be due to the observation made above, that substitutes in one line of supply may be complementary in others, and so also in demands, and the total effect is likely to be a tendency in the same direction. But the strength of the tendency will be determined by an accounting of

the increased forces in all the substitutables and complementaries in each group of factors or products in demand and supply, *i.e.*, from the sum-up of all the degrees of substitutabilty and complementariness, the general co-efficients for general substitutability and complementarity can be devised. Let the co-efficients be c_1 and c_2? Suppose that the factors and products diverted for war-purposes are a_1, b_1, c_1,...and x_1, y_1, z_1,...at prices $p_1\ x$ and $p_1\ y$. The supplies for non-war purposes are reduced by $(a\text{-}a_1)$, $(b\text{-}b_1)$, $(c\text{-}c_1)$, and excess demands appear in these at least for some time until the demand and supply conditions fall into forced adjustment. The excess demand, would tend to raise px and py to new higher levels, but the substitutables here will be more affected than the complementaries in each category, until the general co-efficients, c_1 and c_2 are brought into action. Similar phenomena will appear in a_1, b_1, c_1,...and x_1, y_1,z_1... The equilibrium between p_1x and p_1y and the new levels of px and py will depend on these co-efficients, at a new level of currency and credit k_1. So the determination of the co-efficients is the point where control policy should concentrate and would use as "control-indices". Suppose next that the war-demands are not yet satisfied, and new potentials are to be worked up. As a matter of fact these potentials will have to be worked up from the very outset, as the peace time supplies are not likely to meet the peace and war demands at the same time. Here comes the necessity of finding out the limits of the potentials, which in the case of agricultural products are quite definitely appreciated, while the same may also be true in the case of certain industries. In these latter cases, the potentials being determinate, and the prospect of excess demand receiving satisfaction being clear, a movement of factors and products, *a*, *b*, *c*...and

x, y, z...towards the satisfaction to fill in the gap may be perceptible, particularly, in the current period. This accentuates the fever of scarcity expected of the factors a, b, c,...and, products x, y, z,...tending to push the p_x and p_y still higher up, in the substitute and complementary range. The business of control is to stop this, and to see that the co-efficients, c_1, and c_2 are not prevented from being held true and fast here also.

Disorganising or upsetting motions may also originate from the work-up of the potentials through the additional currency and credit introduced as a necessary measure. The state will make large industrial expenditures, providing new employment at higher prices. The total money thus in circulation may be greater than the desired level of currency and credit, indicated by c_1 or c_2, for the supply of certain commodities and services, or naturally effected levels. Unless the state removes the excess currency and credit, there will be a rapid fall in the value of money and credit, and speculations or expectations will come into stronger play, exerting a good deal of unliquidated pressure on the co-efficients c_1 and c_2 and their mutual relations. And the efficient take-off of the surplus money and credit depends on the assumed demand and supply schedules over the period in view.

The main problem, as shown above, is to find the coefficients c_1 and c_2 and to adjust the price and cost schedules in accordance with these. If they are found, the elasticity of expectations will also be calculated more or less correctly. But even then a use of transport shall be made in order to help the operation of the control of prices and costs and the supply and demands ; for, transport is an ubiquitous fact or like currency and credit, in bringing together demand and supply, current or expected.

APPENDIX II

FOREIGN TRADE

BARE reference has been made to Foreign Trade in the body of the treatise, on the supposition that this Trade is important or not to war-economy in a country according to the part played by it. It may be very important for a country like the U. K. or not so for a country like for India.

It is no occasion for elaborating the ends of foreign trade and how it should be carried. What is relevant to the present purpose is the changes that may happen to it in war period, and their effects on the internal economy.

Let the peace time exports be (*a*) E_1, E_2, E_3...and imports (*b*) I_1, I_2, I_3......

Presumably the real value of E_1, E_2, E_3...is at least = real value of I_1, I_2, I_3......generally (*b*) are expected to be of greater real value than (*a*).

Money values are deceptive and misleading, though in the nature of things, such money measurements are inevitably needed. If the presumption is correct, then the Foreign Trade should not be stopped in war time. But circumstances may affect it badly, and in undesired ways, though the trade does not necessarily come to a stop.

First, E_1, E_2, E_3 . may increase or they may fall. Secondly, I_1, I_2, I_3...may increase or they may fall. Even when E_1, E_2, E_3...increase, or fall, the ordinarily expected effects may not be perceived, in the internal economy of prices, costs and production. So also in

the case of I_1, I_2, I_3...In the case of exports, increase may do more harm than good ; and in that of imports, decrease may act in the same way. These are the paradoxes of war time economy. Both may cause embarrassments.

Ordinarily, excess exports produce good effects through a rise in the level of economic activities and their diversification. But in war period, they cannot do it, owing to the necessity of employing resources for war purposes and to the already existing high level of prices and productions (nearly to the limit and even beyond) in the home country. The money value of the exports, if undiverted to the state, would cause inflation only.

In the same manner, fallen imports may cause speculative rise in prices of stocks held in expectation of further reduced supplies from abroad and contribute to inflation.

Suppose imports are greater than exports, and imports rise while exports fall as in the U. K. The prices at home need not fall nor production nor the level of economic activities. The provisions for payment for the excess imports may be made out of existing or expected capital goods or capital itself or future incomes from capital. The Lease and Lend is an example of such methods of payments, and the economic effects of any such methods must needs be carefully explored or examined as far as possible on the future trade and productivity. It appears that Lease and Lend methods, if the home production is saved from being saddled unnecessarily, may be preferable, as being the most economic.

If exports are larger than imports by a vast excess as in the U. S. A. or in India, the position is rather uncomfortable. The U. S. A. exports are made in order

to build up vast reserves of foreign credit or incomes of future, and they may be embarrassing enough to the U. S. A. itself, like the credits in the last war, unless of course, the post-war reconstruction or construction is placed at the disposal of the U. S. A. It is already hinted that the post-war world will afford a big opportunity for the complete economic superiority and predominance of the U. S. A., and the reserves built up may be used as an instrument of control. Whether this is desirable or not ought to be thought out. As for India the exports have only added to the volume of currency in the country, and inflation in spite of the ear-marking of the sterling assets to future. The evil can be corrected only by an encouragement of imports from all available sources. The difficulty of getting imports now are obvious *viz.* (1) the reduced supply all round, (2) high prices, (3) insecure and costly transport, and (4) the reduced demand at home generally owing to the tight control by the government or the state of the money market. Yet ways for import must be found out, or there will be no balance either to exports nor any check on the enhancement of the prices of the stocks already held.

Then there may be restricted imports or exports either for political reasons or reasons of exchange control policy. If the ends are political, the economic aspects of import control may be whatever they are. If the reasons are exchange control *e.g.*, the conservation of Sterling or the Dollar or the Cross Rate itself as in India, the various economic effects and implications must be searched out carefully. Such restrictions may cause a reduction of imports for public, or only an increase of imports of war materials for the state, and it may only show itself in the increased taxation or

increased issue of currency and credit or alienation of gold. It is best, therefore, to classify such imports for the state as 'Borrowings', and the adoption of a Lease and Lend may be economically sound here than the saddling of the war finances at home or production and distribution either in the current period or in future. Yet war time foreign trade involves mostly a comparison of current with future values and the latter being indeterminate, no very exact determination of the probabilities can be made. Whatever happens, the control of Foreign Trade should be exercised in such a way as to prevent future complications in free demands and supplies. The satisfaction of the current war time demands is not the only thing to consider.

APPENDIX III

CAPITAL IN WAR TIME

THE well-known and recognised income-investment formulas are :

(*a*) Income = Consumption + Savings.

(*b*) Savings = New Investments.

Of course, the equation (*b*) is a long term one, signifying that new investments being made in advance of actual savings may be more or less than the actual savings made in time, which causes the uncertainty ending in and determining cycles. In war-time the operation of the formulas is further complicated by the new conditions that come.

At the beginning of the war let there be capital (invested resources) K, and uninvested savings, S. The war finds quickly K expanding to K_1, and savings 'S' being used up in anticipation of higher marginal returns than the current rate of interest, R (in money terms). It is also possible that additional money is created (which may be described as credit issued by the State to itself) for meeting the demands of suddenly increased investments (short or long), so $K_1 = K +$ existing savings + new savings.

The new investments and employments continue to add to the national incomes, in term of money, if not in real production.

To put it simply new Savings $S_1 > S$, when there is the possibility of consumption being reduced from C to $C - x$, owing to transfer of resources and decline of imports and so forth.

Logically, capital (including new investments) would continue to develop, but at very irregular rates: and it may be that at an early stage $K_1 > S + S_1$ by a considerable amount, though in course of time they may tend to equate. This last eventuality is doubtful.

For, the whole capital position becomes shortly so complicated owing to a desire for control that this logical order is not realised. Further complication is introduced by the fixed rate of interest while wages and profits are not fixed, as they certainly were not in India. The result of all such complications is that irregular time lags occur in the actualisation of the equation that new investment ought to be equal to the new savings. The fixed interest, while other items of costs are changing, cannot be expected to produce any steadying effect, and its only effect is to keep the financial burden of the State at a comparatively low level. In the beginning of a war a low fixed rate, 2 or 3 per cent., gives an unusually high margin for profits or marginal rewards, of capital investment. The rate of new investments may be much larger than expected. Then the financial operations by the State cause some disturbances.

There is, in the first instance, no doubt that the difference between the new rate of investment ($= K_2 - K$) and the new rate of saving ($= S_1 - S$) is a cause of disturbance and so comes the State with its war-loans and other forms of borrowing in order to wipe off the difference that contributes to inflation. But the rate of saving *i.e.*, resources that can be invested or withdrawn, is very uncertain, owing to the irregularity of the other uncontrolled or unchecked factors. Higher taxation and variations in prices might affect the rate of saving also as the war progresses. So the total increasing war expenditure being taken into account,

it is not only likely that for sometime at least, the new investments K_1 are considerably in excessof the expected or actualised new savings, S_1, and hence the boom-like conditions, and also the consequent irregularity of flow owing to a fall in marginal efficiency.

Besides, a low fixed rate means a nominal rate that gradually or quickly falls out of proportion with the real rate with the rise in price-level. This undoubtedly makes capital shy in the market, except in cases where the interest and profits are combined together. Otherwise, the higher the price-level, the more negative the reward of capital, with the result that there would be no other investor in the market except the State. But such eventuality is also to be avoided, because the Government will have to borrow at some interest and the capitalists would be enjoying interests for doing nothing by way of production. The rewards on the Government loans may be allowed to accumulate and that might later cause embarrassments.

The obvious remedy is to fix prices, wages and rewards to capital and management so as to maintain as far as possible a steady and intelligent level of expectations of higher marginal efficiency than the rate of interest. In other words there is no reason why either the State or private enterprise alone should be occupied wholly with the great task of war production in which co-operation of all factors and influences is absolutely needed. Private enterprise has to be maintained, and at the same time there must not be any very serious disturbances owing to the high power elasticity of expectations. The announcement aspect is certainly important here to exercise influence on these expectations that may be in regard of returns.

The best way of managing the situation is to make a

probable estimate of the scale of new investments that may be needed for the war in a time prospect. Then a calculation should be made of the increased rates of incomes and savings (prices etc. being foreseen as far as possible) and, lastly, there must come arrangements for maintaining the rate of investment out of the expected rate of savings by a proper regulation of the interest rate. The rates of investment and saving can be controlled in two different ways, first by the control of the rates of profits expected in several investment lines and secondly, by the general hold kept on prices and consumption. Special conditions that are likely to be revealed by the statistics will require special treatment of the problems. Otherwise, the capital market may develop unpleasant features.

The possible developments in shares and stocks market have already been referred to. There is a high degree of expectation of profits, at the outset because in war time all industries work intensively, with the result that high profits may come. The values of shares and stocks begin to rise, and a bullish tendency prevails. This means increase of the number of transactions in the market, profits from mere deals *i.e.*, buying of shares at present to be sold shortly at a larger premuim. The whole thing will contribute its share to the inflation. It is, therefore, needed to control stocks and shares market more than the rate of interest, or profit by the issue of government loans. A strict watch must be kept, if the deals (speculative) in shares and stocks are not altogether prevented. As a general experience, higher taxation of profits alone cannot stop the increased nominal incomes finding better speculative rewards in the investment market (Financial).

The problem is to get the required new capital at

such rates of interest as would not burden the future, and would not cause the flow of savings (new) to flag. The first demands a low rate or rates and the second, expected high marginal returns. These two are inconsistent in a way and the essence of control will be to make them consistent for the time being.